

MISSOURI SKILLS GAP

2008



MORE WITH
MERIC
TIMELY TARGETED INTELLIGENT

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INTRODUCTION

The **Missouri Job Vacancy Survey (JVS)** (<http://pprc.umsi.edu/JVS/>) can be an important and useful tool for the state and the ten defined JVS regions. The Missouri JVS is designed to discover employer demand, along with wages and benefits offered; education and experience levels required; competencies important to fill openings; and shortcomings of recent applicants.

Soft skills refer to personality traits, ability with language, and personal habits; while hard skills represent those skills which are job requirements like computer literacy.

Groups and individuals who could tap into this tool's potential include:

- **Workforce developers** to determine how and where training dollars would best be utilized
- **Employers** to plan for hiring needs based on labor shortages and excesses
- **Job seekers** to discover which occupations or regions have the highest demand for workers
- **Policy makers** to determine discrepancies between labor supply and demand

This report analyzes the “soft skills” and “hard skills” that employers seek. The so-called “soft skills” generally refer to the cluster of personality traits, social graces, ability with language, and personal habits that constitute a person. “Soft skills” complement “hard skills,” which are technical requirements of a job.

Additionally, employer feedback provides a means to identify skill gaps that exist in the state's workforce. Skill gaps can simply be described as the difference between skills needed for a job and those possessed by an applicant.

The information in the **Missouri Skills Gap 2008** report categorizes job vacancies in three education and experience groups—**NOW**, **NEXT**, and **LATER**. A further explanation of these categories can be found on the following page.

A major goal of the Missouri Job Vacancy Survey is to identify skill gaps that exist in the state's workforce.

EDUCATION AND EXPERIENCE CATEGORIES

The education and experience categories describe the most significant level of education or training for a particular occupation based on national trends. While many occupations could be pursued with various levels of education or training, these groupings identify typical requirements and provide an additional source of information for a career seeker.

This report analyzes skill gaps by **NOW**, **NEXT**, and **LATER** categories with an emphasis on highlighting competencies, shortcomings, qualified applicants, difficulty filling openings, and skills data within each educational and experience group.

Now

Short/Moderate-Term On-the-Job Training

Occupations generally requiring short-term on-the-job training are those for which less than 1 month of training suffices. Jobs that generally require moderate-term on-the-job training are those that assume training to last at least 1 month and no more than 12 months.

Next

Long-Term On-the-Job Training/Work Experience in a Related Occupation

Occupations requiring long-term on-the-job training are those for which more than one year of training is needed. Jobs that generally require work experience in a work-related occupation are assumed to require a level of skills and experience higher than that of jobs requiring long-term on-the-job training.

Associate's Degree/Vocational Education

Occupations requiring vocational education are those for which at least a few weeks or more than a year of vocational education is needed. Occupations that generally require the completion of an associate's degree program usually require at least 2 years of full-time academic study.

Later

Bachelor's Degree/Work Experience

Occupations that require completion of a bachelor's degree program usually require 4 or 5 years of full-time academic work. Jobs may also require work experience in addition to a bachelor's degree or higher.

Master's/Doctoral/Professional Degree

Occupations that require the completion of a master's degree program usually need 1 to 2 years of full-time equivalent study beyond a bachelor's degree whereas a doctoral degree program usually requires at least 3 years of academic work beyond a bachelor's degree. A professional degree usually requires at least 6 years of academic study.

NOW OCCUPATIONS



INTRODUCTION TO NOW OCCUPATIONS

NOW occupations are those occupations which require either *short* or *moderate-term on-the-job training*. Occupations generally requiring short-term on-the-job training are those for which less than 1 month of training suffices. Jobs that generally require moderate-term on-the-job training are those that assume training to last at least 1 month and no more than 12 months.

Over 47,600 job vacancies were reported in ***NOW occupations***. This accounts for over half (56%) of all vacancies.

NOW occupations with the most job vacancies are combined food preparation and serving workers (5,661), cashiers (2,000), and customer service representatives (1,519).

Industries with the most vacancies are Accommodation and Food Services (13,604), Retail Trade (10,215), and Health Care and Social Assistance (6,072).

Over half of all
job vacancies are in
NOW occupations

Soft skills such as
interpersonal skills are
the most important
competencies for openings
of ***NOW occupations***.
Lack of positive attitude
and poor work ethic are the
most common applicant
shortcomings.

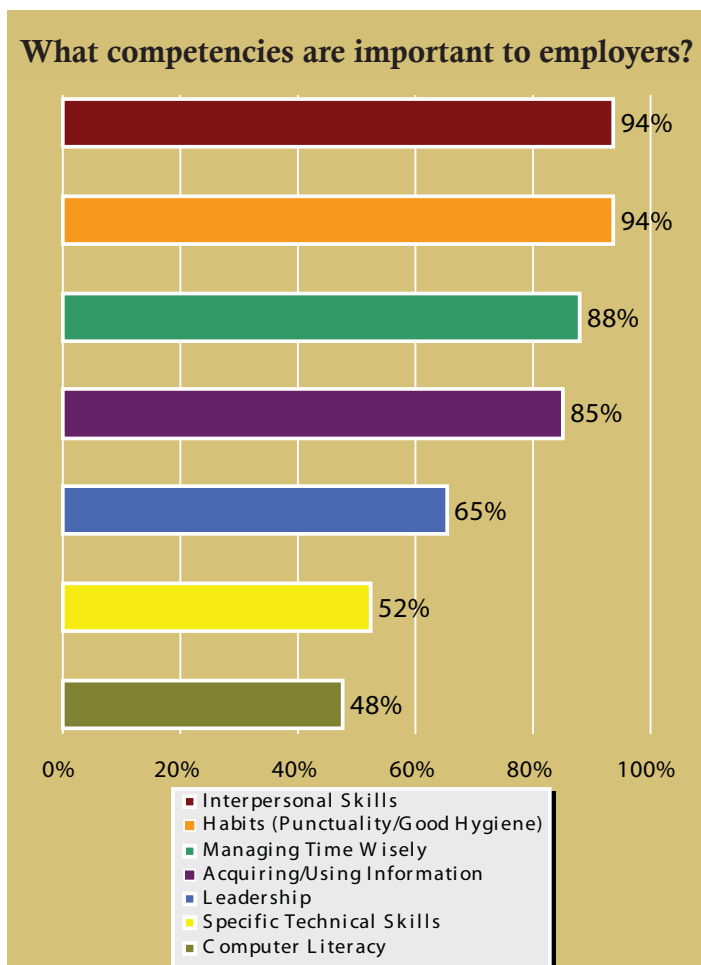
SOFT SKILLS

The skills gap for ***NOW occupations*** are most evident for “soft skills.” Competencies like *interpersonal skills* and *habits of punctuality and good hygiene* are each deemed most important by employers.

Coinciding with this are applicant shortcomings of similar “soft skill” areas. *Lack of positive attitude*, *poor work ethic*, and *poor customer service skills* are the most commonly cited shortcomings for vacancies in ***NOW occupations***.

COMPETENCIES

The clearest skills gap of *NOW occupations* exist in the gap between skills employers deem most important (competencies) and skills which applicants lack (shortcomings).



Employers with vacancies in *NOW occupations* indicate that both *interpersonal skills* and *habits of punctuality and good hygiene* are important competencies for 94 percent of vacancies.

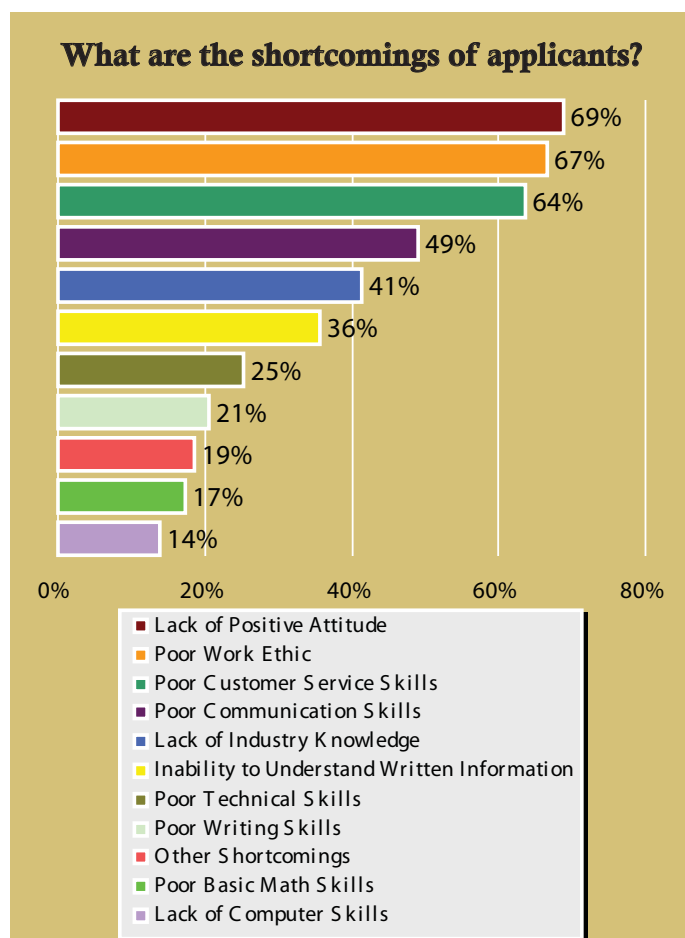
“Soft skills” such as these are clearly the most important competencies cited by employers. The graph below illustrates applicants have the most common shortcomings in these type of skills, as well.

“Hard skills” like *specific technical skills* (52%) and *computer literacy* (48%) are the least important competencies for *NOW occupations*.

SHORTCOMINGS

The top four shortcomings of vacancies in *NOW occupations* are also in these areas of “soft skills”—indicating a clear skills gap between competencies deemed important by employers and shortcomings of applicants.

Respondents indicate they are most commonly finding shortcomings of recent applicants for *lack of positive attitude* (69%), *poor work ethic* (67%), and *poor customer service skills* (64%).



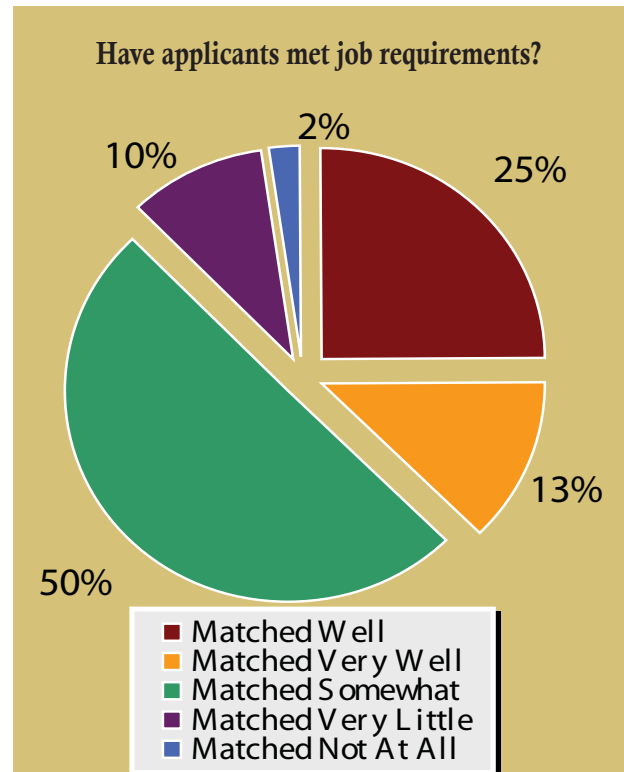
QUALIFIED APPLICANTS

Missouri employers of **NOW occupations** are experiencing a skills gap for applicants, particularly in “soft skills.” However, applicants do in fact match the overall job requirements at a high rate.

For example, employers of these occupations respond that applicants for 38 percent of job vacancies either *matched well* or *very well*, with another 50 percent indicating applicants *matched somewhat*.

For far fewer vacancies employers respond that applicants aren’t fully sufficient for the position they are applying. For ten percent of vacancies, applicants *matched very little* and for two percent *not at all*.

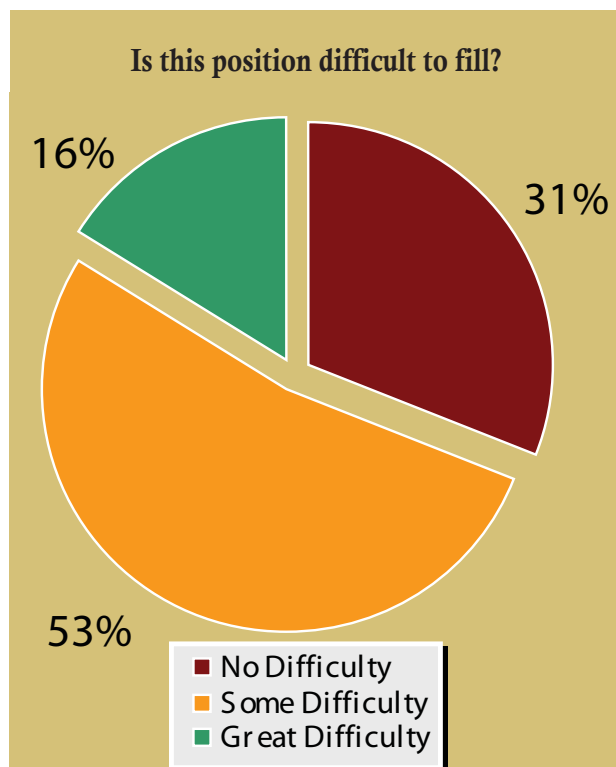
Given the skill gaps of “soft skills” and this information we can assume that employers believe the majority of applicants meet overall job requirements, but still feel they need improvement in particular “soft skill” areas, such as *work ethic* and *customer service skills*.



DIFFICULTY FILLING OPENINGS

For most job vacancies in **NOW occupations** employers had a much easier time finding applicants who meet job requirements than for occupations in the two other training and education categories—**NEXT** and **LATER**.

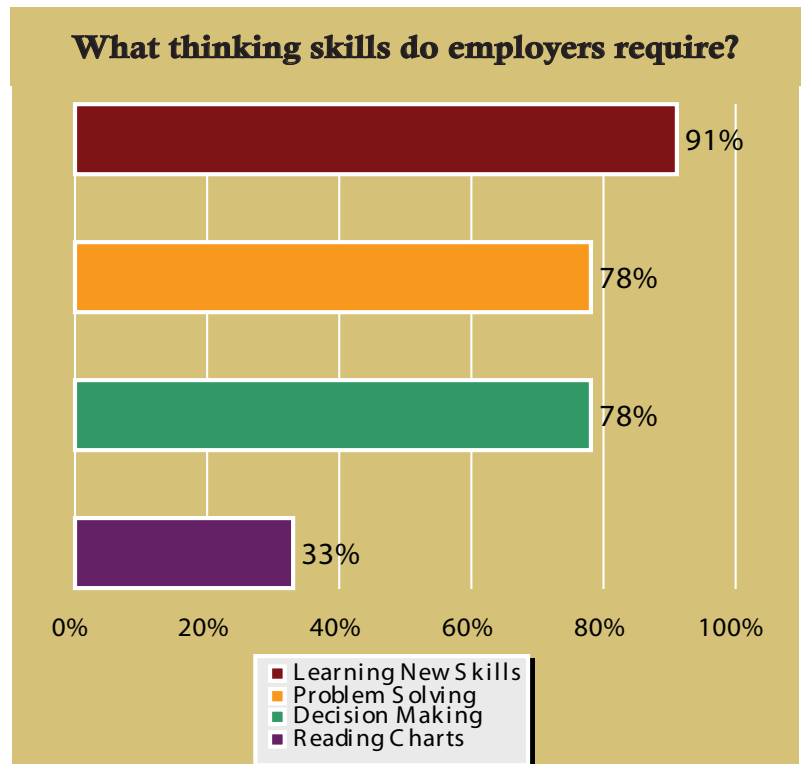
Employers responded that for 31 percent of vacancies in **NOW occupations** they have *no difficulty* finding qualified applicants, while for just 16 percent they find *great difficulty* filling the position.



THINKING SKILLS

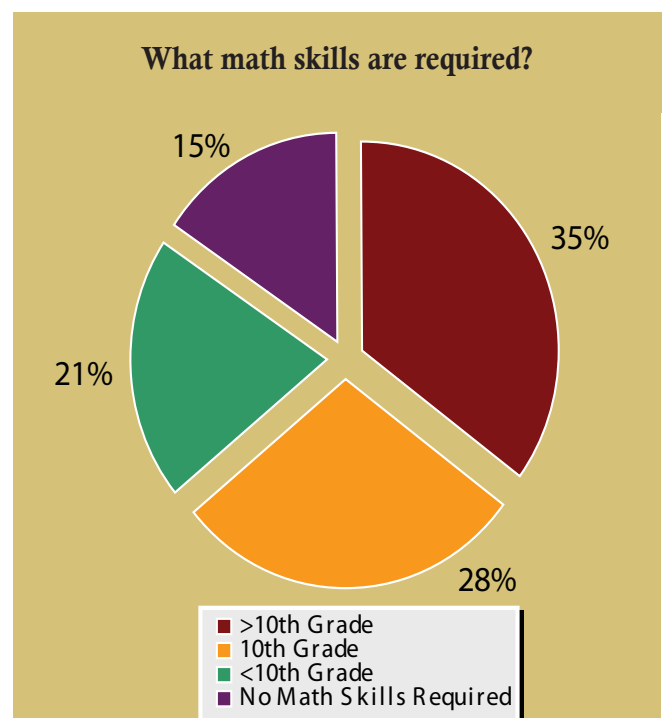
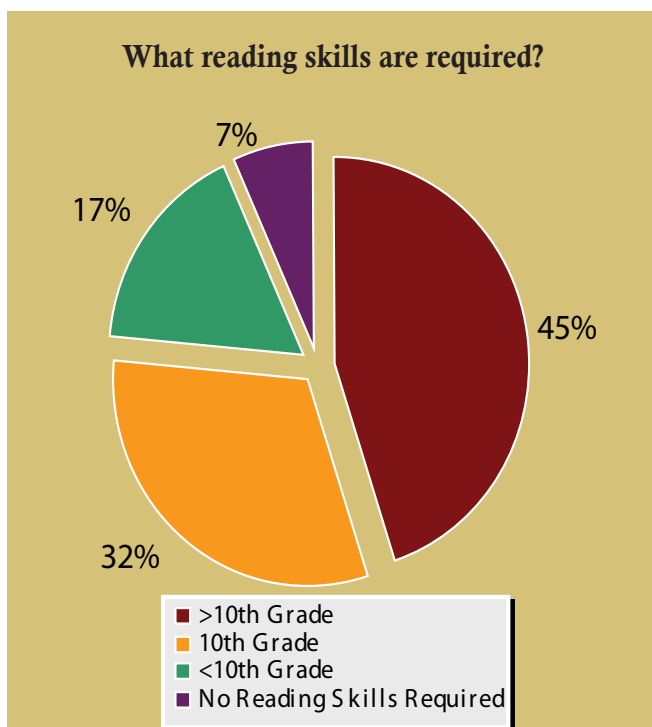
Common thinking skills among vacancies for *NOW occupations* include *learning new skills*, *problem solving*, and *decision making*. These skills are the top thinking skills for each category of education and experience.

Vacancies for *NOW occupations* have the highest percent of *learning new skills* than the other two education and experience categories. Given the *NOW occupations* generally require short-to-moderate on-the-job training, it is no surprise these vacancies would require new hires to learn new skills not acquired in previous experiences or an educational institution.



READING AND MATH SKILLS

NOW occupations have a much lower percent of vacancies which require greater than a 10th grade education in *reading skills* (45%) and *math skills* (35%) than vacancies in both *NEXT* and *LATER occupations*.



CONCLUSIONS OF NOW OCCUPATIONS

“Soft skills” such as *interpersonal skills* and *habits of punctuality and good hygiene* are areas where skill gaps most predominantly exist for vacancies in **NOW occupations**. While these are the competencies deemed most important by employers, they are also the skills which recent applicants have the highest percent of shortcomings.

Soft skills gaps are most predominant in **NOW occupations**.

Such shortcomings like *lack of positive attitude*, *poor work ethic*, and *poor customer service skills* are the most commonly cited for vacancies in **NOW occupations**. This alone indicates a clear skills gap—one in which employers believe needs improvement for Missouri’s workforce in **NOW occupations**.

Analysis of applicant shortcomings and the skills needed for these occupations highlight a clear concern for reducing the skills gap for **NOW** workers. Employers ranked *learning new skills* (91%) a very important attribute for new hires. This contrasts with employers experiencing applicant shortcomings such as a *lack of positive attitude* (69%) and *poor work ethic* (67%).

Learning new skills requires a willingness to discover new ideas and apply that knowledge in the work environment. New hires with poor attitudes and work ethics will be less likely to embrace new skills training and advance to the **NEXT** and **LATER** occupations that most people strive to achieve.

ACTION STEP

One Initiative — Missouri Career Prep Certificate Program

To address “soft skill” and academic achievement among high school students, the Missouri Department of Elementary and Secondary Education (DESE) has a program being piloted in 29 schools this year. Completing the Missouri Career Prep Certificate Program will give graduates written proof of their academic and “soft skill” proficiencies to show employers.

Requirements for the certificates vary across pilot programs based on the needs of local businesses and industries. One commonality across schools in the program is that all certificates will address “soft skills” which are emphasized frequently as skill gaps in feedback from the Missouri Job Vacancy Survey. The program will include attaining proficiency in such “soft skill” areas as interpersonal skills, attendance habits, and professional and ethical behavior. Additionally, such traditional academic indicators like grades, test scores, and occupational training and certification, along with information about graduates’ community service hours, extracurricular activities, awards, and honors will be included in the certificate. For more information about the Missouri Career Prep Certificate Program, visit the website at: http://www.dese.mo.gov/divcareered/CPC_background.htm

NEXT OCCUPATIONS



INTRODUCTION TO NEXT OCCUPATIONS

NEXT occupations are those occupations which require either *long-term on-the-job training/work experience in a related occupation* or *Associate's degree/vocational education*.

Occupations requiring long-term on-the-job training are those for which more than one year of training is needed. Jobs that generally require work experience in a work-related occupation are assumed to require a level of skills and experience higher than that of jobs requiring long-term on-the-job training.

Occupations that generally require the completion of an associate's degree program usually require at least 2 years of full-time academic study. Occupations requiring vocational education are those for which at least a few weeks or more than a year of vocational education is needed.

One-quarter of all job vacancies are in *NEXT occupations*

Nearly 20,800 job vacancies were reported in *NEXT occupations*. This accounts for one quarter (25%) of all vacancies.

NEXT occupations with the most job vacancies are registered nurses (3,662), supervisors of food preparation and serving workers (1,449), and hairdressers, hairstylists, and cosmetologists (1,401).

Industries with the most vacancies are Health Care and Social Assistance (7,178), Accommodation and Food Services (2,623), and Other Services (2,476).

Soft skills such as interpersonal skills and managing time wisely are the most important competencies for openings of *NEXT occupations*. Lack of positive attitude and poor work ethic are the most common applicant shortcomings.

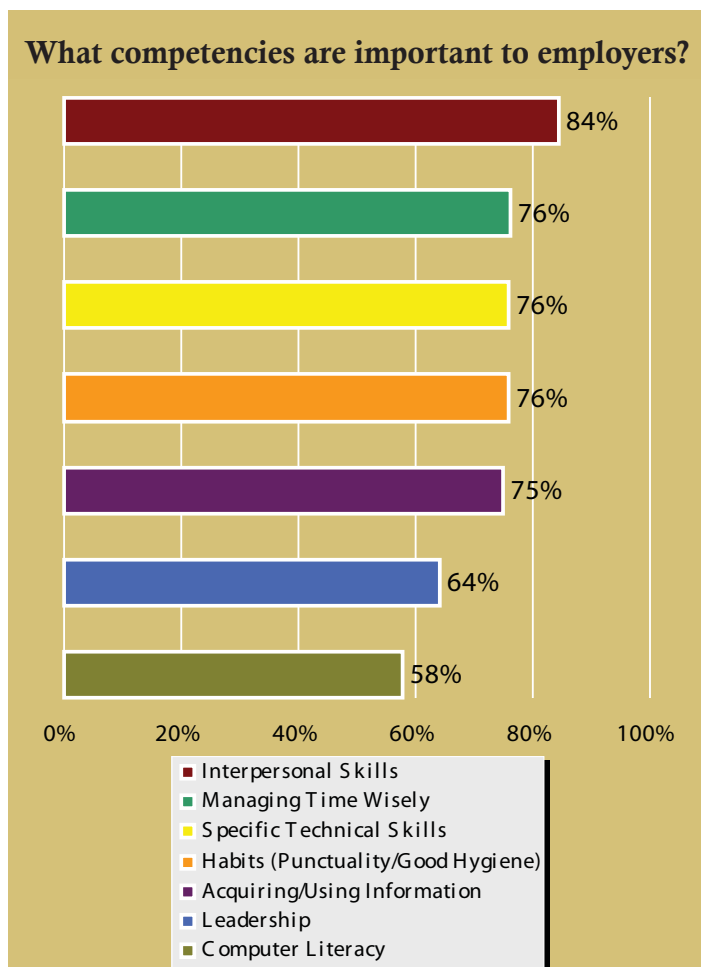
SOFT SKILLS

The skills gap for *NEXT occupations* are most evident for "soft skills." Competencies like *interpersonal skills* and *managing time wisely* are each deemed most important by employers.

Coinciding with this are applicant shortcomings of similar "soft skill" areas. *Lack of positive attitude*, *poor work ethic*, and *poor communication skills* are the most commonly cited shortcomings for vacancies in *NEXT occupations*.

COMPETENCIES

The clearest skills gap of *NEXT occupations* exist in the gap between skills employers deem most important (competencies) and skills which applicants lack (shortcomings).



Employers with vacancies in *NEXT occupations* indicate that *interpersonal skills* are an important competency for 84 percent of vacancies and *managing time wisely*, *specific technical skills* and *habits of punctuality and good hygiene* are important competencies for 76 percent of vacancies.

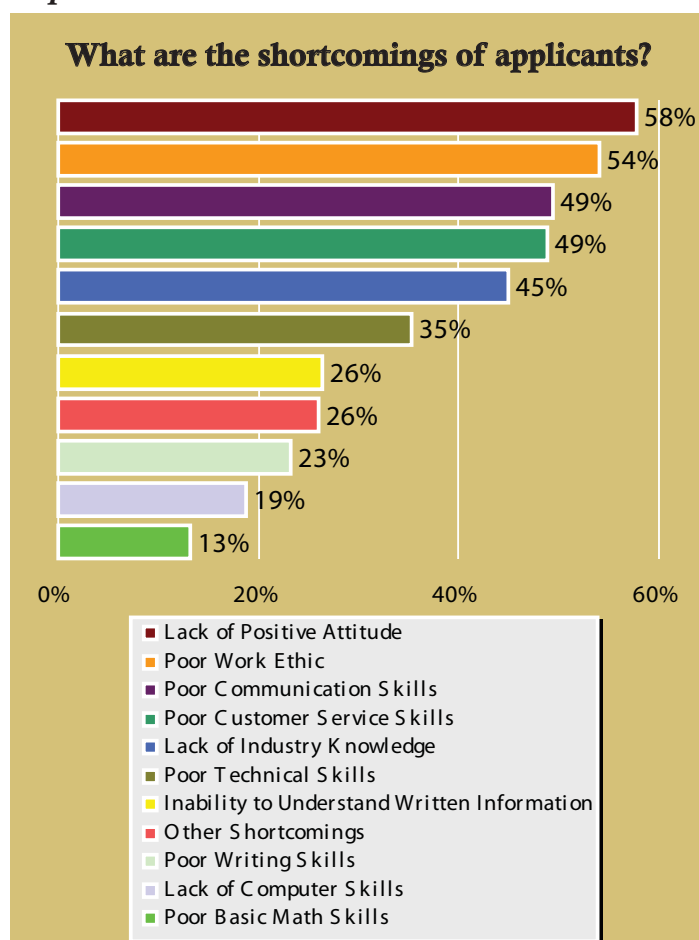
Interpersonal skills are clearly the most important competencies cited by employers. The graph below illustrates applicants have the most common shortcomings in these type of skills.

A “hard skill” like *specific technical skills* (76%) is much more important for workers in *NEXT occupations* than for those in *NOW occupations*.

SHORTCOMINGS

As with *NOW occupations*, the top four shortcomings of applicants in *NEXT occupations* are also in the areas of “soft skills”—indicating a skills gap between competencies like *interpersonal skills* and shortcomings like *lack of positive attitude* and *poor work ethic*.

Technical skills, which are an important competency, were found to be poor in one out of every three applicants in *NEXT occupations*.



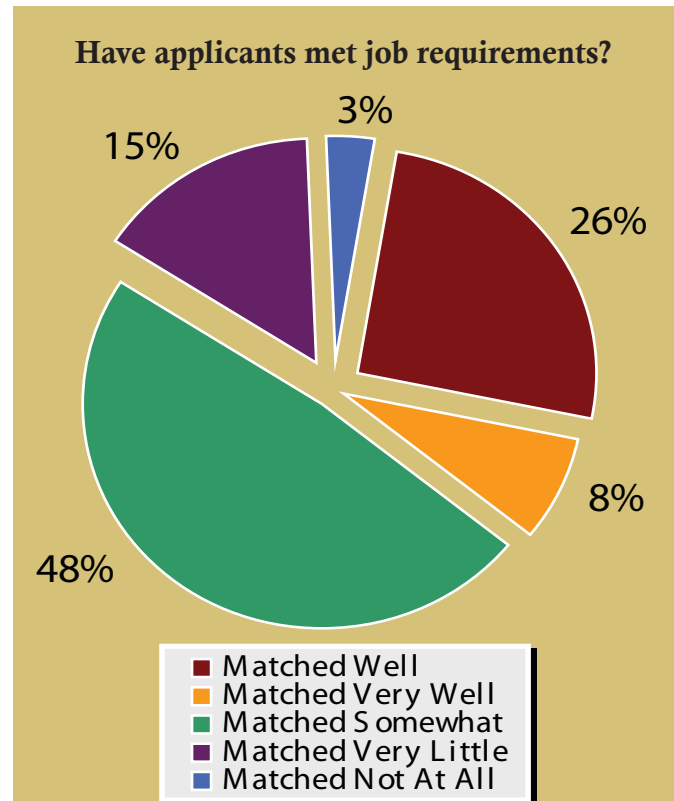
QUALIFIED APPLICANTS

Missouri employers of *NEXT occupations* are experiencing a skills gap for applicants, particularly in “soft skills.” However, applicants do in fact match the overall job requirements at a relatively high rate.

For example, employers of these occupations respond that applicants for 34 percent of job vacancies either *matched well* or *very well*, with another 48 percent indicating applicants *matched somewhat*.

Far fewer employers respond that applicants aren’t fully sufficient for the position they are applying. Applicants *matched very little* or *not at all* only 18 percent of the time.

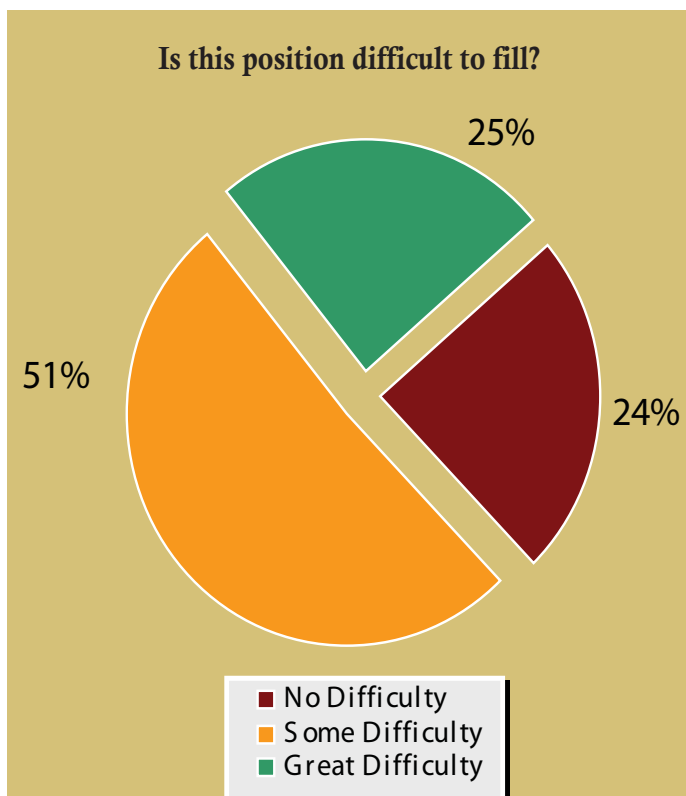
Given the skill gaps of applicants and this information we can assume that employers believe the majority of applicants meet overall job requirements, but still feel they need improvement in particular “soft skill” areas, such as *positive attitude*, *work ethic* and *communication skills* and in the “hard skill” area of *specific technical skills*.



DIFFICULTY FILLING OPENINGS

For most job vacancies in *NEXT occupations* employers had *some difficulty* filling positions. Employers were evenly split for the remainder with 25 percent having *great difficulty* and 24 percent having *no difficulty*.

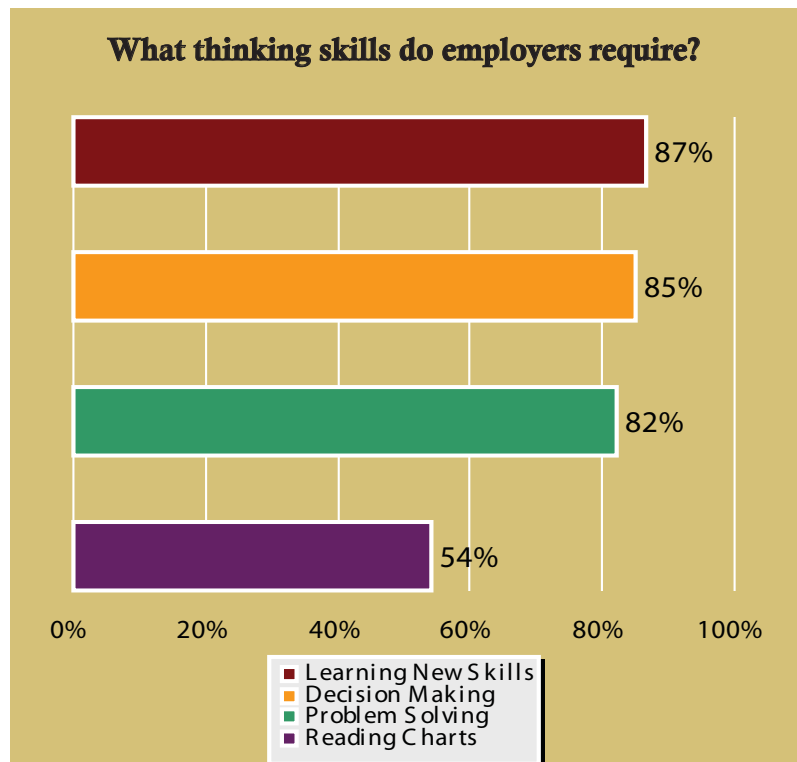
This was less the case for vacancies in the Health Care and Social Assistance industry. Employers for just 16 percent of vacancies indicated *no difficulty* filling the open position, while 84 percent indicated *some difficulty* or *great difficulty* filling positions.



THINKING SKILLS

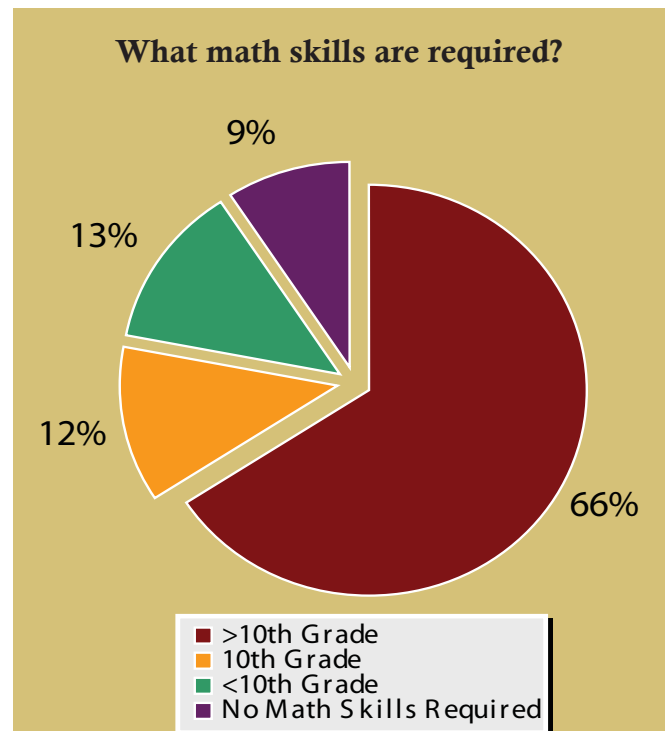
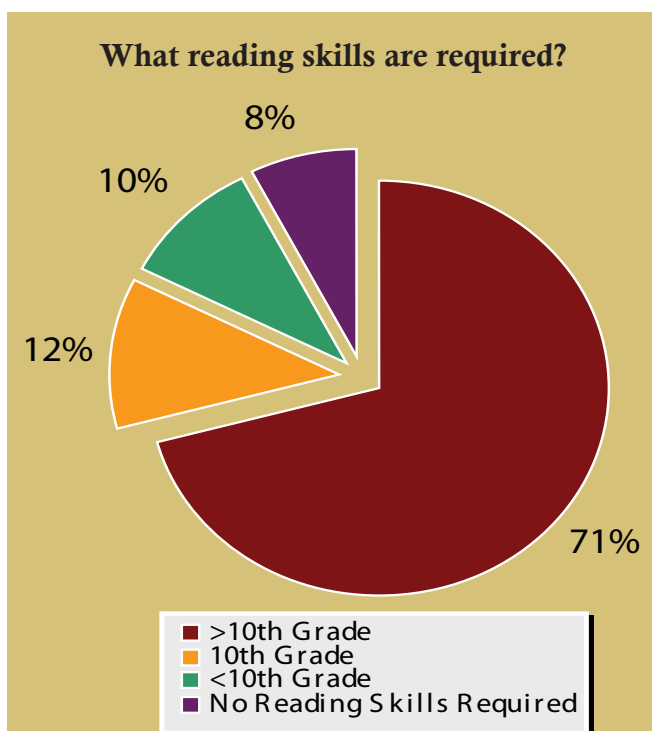
The most common thinking skills required for *NEXT occupations* are *learning new skills, decision making, and problem solving*.

For *NEXT occupations* which required applicants to learn new skills, 35 percent generally needed a postsecondary vocational award. These included licensed practical and vocational nurses, drafters, and real estate sales agents.



READING AND MATH SKILLS

NEXT occupations required higher levels of reading (71%) and math (66%) abilities than lower-skilled jobs, nearly double the percentage of NOW occupations needing those skill levels.



CONCLUSIONS OF NEXT OCCUPATIONS

Skill gaps exist in both “soft skill” and “hard skill” areas for *NEXT occupations*.

“Soft skill” gaps exist where employers indicate that competencies such as *interpersonal skills* and *managing time wisely* are important for new hires, but common applicant shortcomings indicate *lack of positive attitude, poor work ethic, poor communication skills, and poor customer service skills*.

“Hard skill” gap areas can be seen through the response about competencies and shortcomings of *specific technical skill* and *acquiring and using information*. Respondents said that for 76 percent of vacancies *specific technical skills* are an important competency, while over one-third (35%) of the applicants have a deficiency in this area. Likewise, for 75 percent of vacancies *acquiring and using information* was important, while 25 percent of applicants have an *inability to understand written information*.

Higher proficiency in *reading* and *math skills* become important for more vacancies the higher one climbs the education and experience ladder. *NEXT occupations* have nearly twice the percent of vacancies which require these skills at a greater than 10th grade level than those in *NOW occupations*.

ACTION STEP

One Initiative — Skilled Workforce Initiative

To help fill in skill gaps of Missouri’s workforce, the Division of Workforce Development’s Skilled Workforce Initiative has helped thousands of Missourians receive technical training that prepares them for career pathways in growth occupations. The past three years regional partners have applied for funding awards based on criteria evaluated through the use of four components: Talent Acquisition and Development; Business Retention Services; Entrepreneurial Training and Support and One Stop Career Center Enhancements.

For Talent Acquisition and Development, one criterion partners aim to achieve is designing projects around root causes of occupational and skill shortages. These root causes may include insufficient academic preparation for job specific and basic skills; inadequate personal effectiveness competencies or “soft skills”; rapid technological changes; lack of education and training available; lack of career awareness, (skill requirements, opportunities and pathways for advancement); and “brain drain” (talented workers who leave the region for more desirable conditions). Applications must demonstrate convincingly that proposed solutions to these root causes are meaningful efforts to attack the root cause. For more information, please visit:

<https://worksmart.ded.mo.gov/index.cfm?frpath=departments/home.cfm?MenuID=5089>

LATER OCCUPATIONS



INTRODUCTION TO LATER OCCUPATIONS

LATER occupations are those occupations which require either a **Bachelor's degree/work experience** or **Master's/Doctoral/Professional degree**.

Occupations that demand completion of a Bachelor's degree program usually require 4 or 5 years of full-time academic work. Jobs may also require work experience in addition to a Bachelor's degree or higher.

Occupations that require the completion of a Master's degree program usually need 1 to 2 years of full-time equivalent study beyond a Bachelor's degree whereas a Doctoral degree program usually requires at least 3 years of academic work beyond a Bachelor's degree. A Professional degree usually requires at least 6 years of academic study.

One-fifth of all job vacancies are in **LATER occupations**

Over 16,200 job vacancies were reported in **LATER occupations**. This accounts for nearly one-fifth (19%) of all vacancies.

LATER occupations with the most job vacancies are loan officers (1,257), secondary school teachers (734), elementary school teacher (655), middle school teachers (543), civil engineers (453), and insurance sales agent (428).

Hard skills such as computer literacy and specific technical skills are some of the most important competencies for **LATER occupations**. Poor communication skills and lack of positive attitude are the most common applicant shortcomings.

Industries with the most vacancies are Education Services (3,480), Health Care and Social Assistance (2,632), Finance and Insurance (2,474), Professional, Scientific, and Technical Services (2,118).

HARD SKILLS

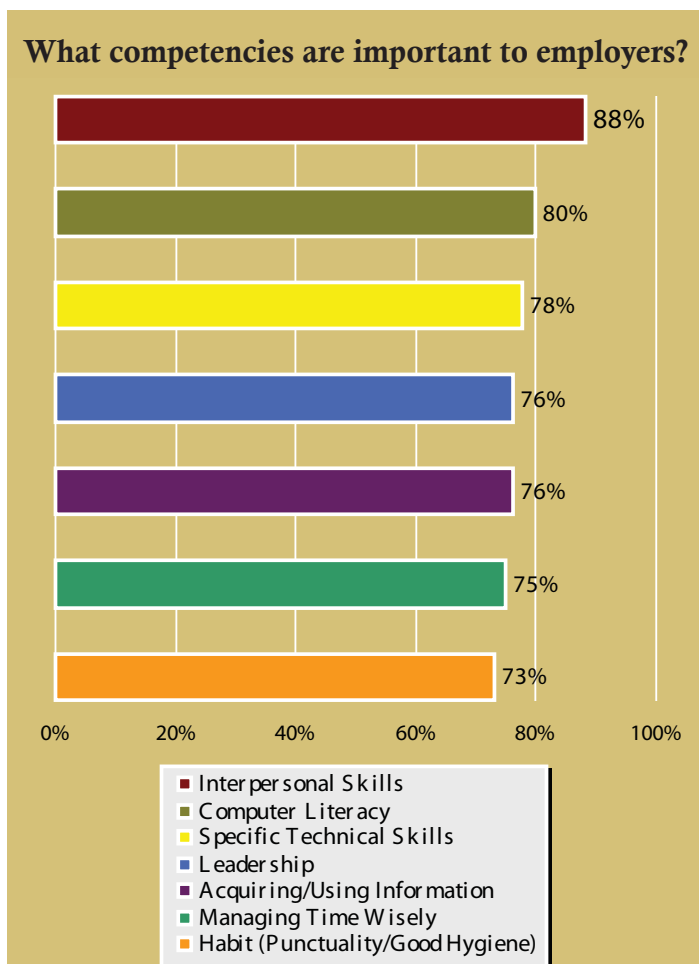
The skills gap for **LATER occupations** are most evident for "hard skills."

Computer literacy and *specific technical skills* are two of the three most important competencies for employers.

Coinciding with this are applicant shortcomings of similar "hard skill" areas. *Lack of industry knowledge, poor technical skills, and poor writing skills* are common shortcomings for 25 percent of vacancies in **LATER occupations**.

COMPETENCIES

While *NOW* and *NEXT occupation* skills gaps were most apparent for “soft skills,” analysis shows vacancies of *LATER occupations* contain a clear “hard skills” gap, as well.



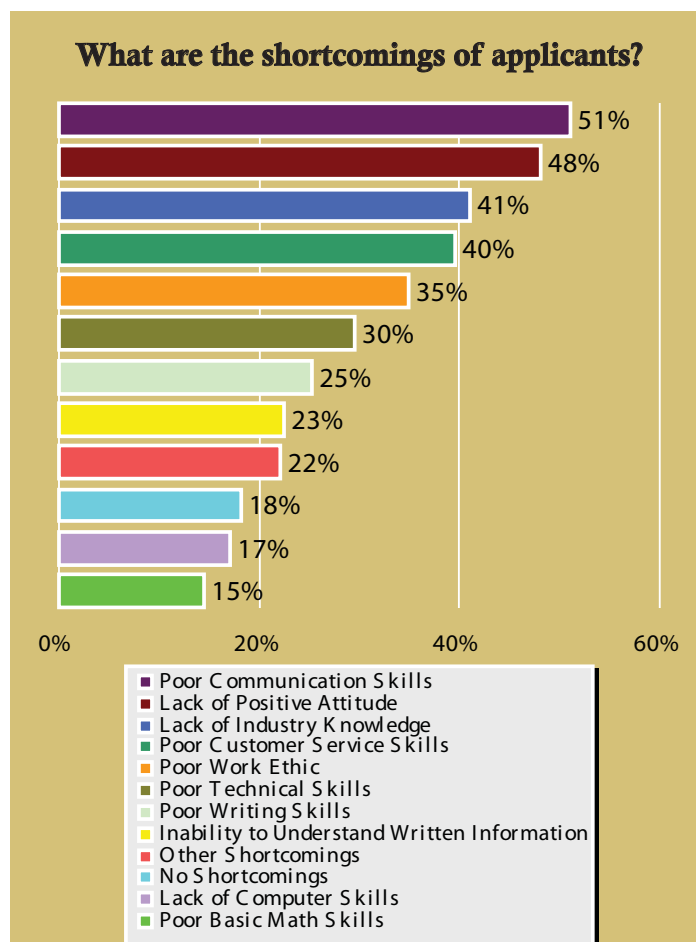
A “soft skill” like *interpersonal skills* is the most important competency for 88 percent of vacancies. This corresponds with deficiencies of applicants in which such “soft skills” like *poor communication skills* and *lack of positive attitude* are common shortcomings.

However, “hard skills” like *computer literacy* and *specific technical skills* had a higher percent of vacancies for *LATER occupations* than for the other two education and experience categories, with 80 percent and 78 percent, respectively. This discrepancy is most evident between *NOW occupations* and *LATER occupations*.

SHORTCOMINGS

Employers responded that for 30 percent of vacancies *poor technical skills* is a shortcoming of applicants, representing nearly one in three applicants. Likewise, for one-quarter of vacancies, there is a deficiency of *poor writing skills* for this well-educated and trained segment of the workforce.

Also telling is that for over 40 percent of vacancies, applicants *lack industry knowledge*—another “hard skill” area.



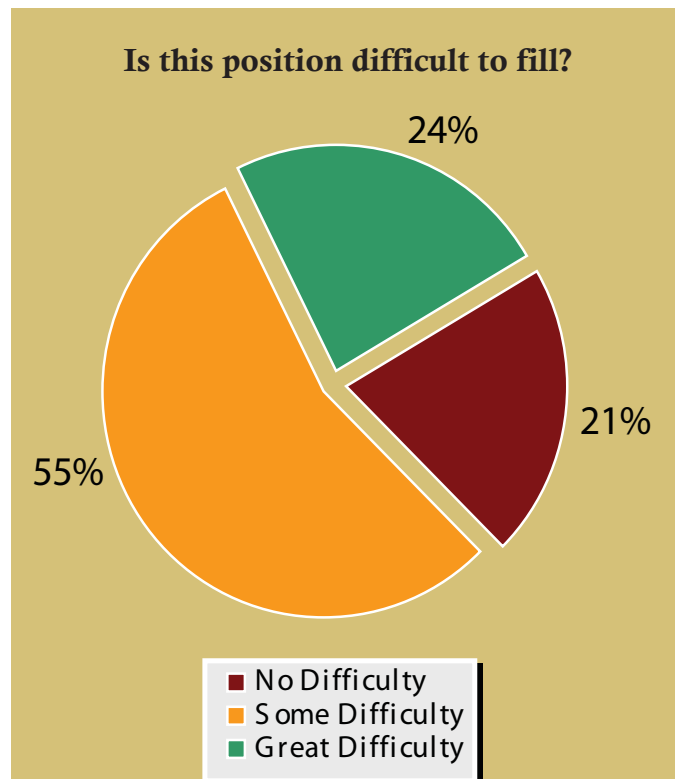
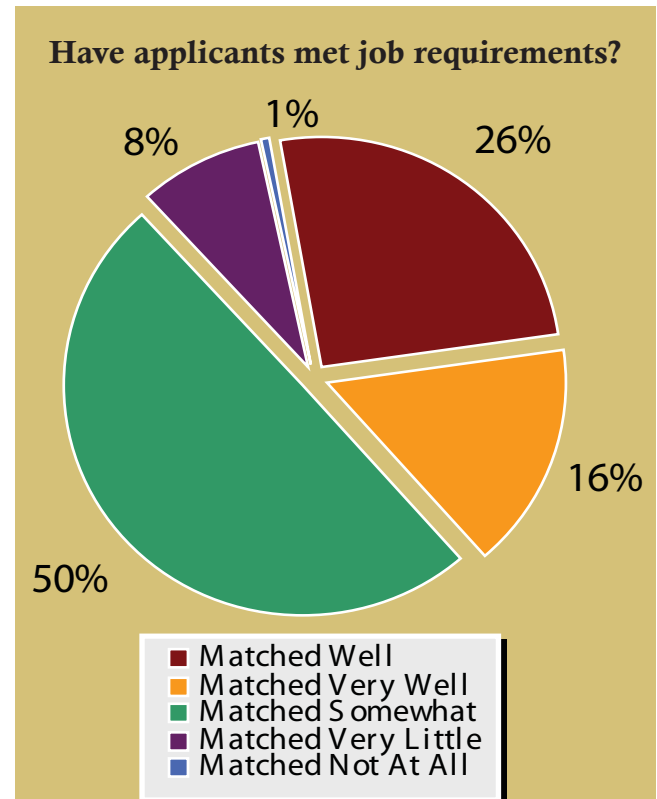
QUALIFIED APPLICANTS

While vacancies for *LATER occupations* indicate there are skills gaps, analysis does show that applicants do match overall job requirements at a relatively high rate.

For example, employers of these occupations respond that applicants for 42 percent of job vacancies either *matched well* or *very well*, higher than any other education and experience category.

For far fewer vacancies employers respond that applicants aren't fully sufficient for the position. For eight percent of vacancies applicants *matched very little* and for just one percent *not at all*.

Given the skill gaps of applicants and this information we can assume that employers believe the majority of applicants meet overall job requirements, but still feel they need improvement in particular "hard skill" areas, such as *specific technical skills* and *computer literacy* and in the "soft skill" areas of *communication skills* and *lack of positive attitude*.



DIFFICULTY FILLING OPENINGS

For most job vacancies in *LATER occupations* employers had *some difficulty* (55 percent) filling positions. Nearly one out of every four positions proved very difficult to fill.

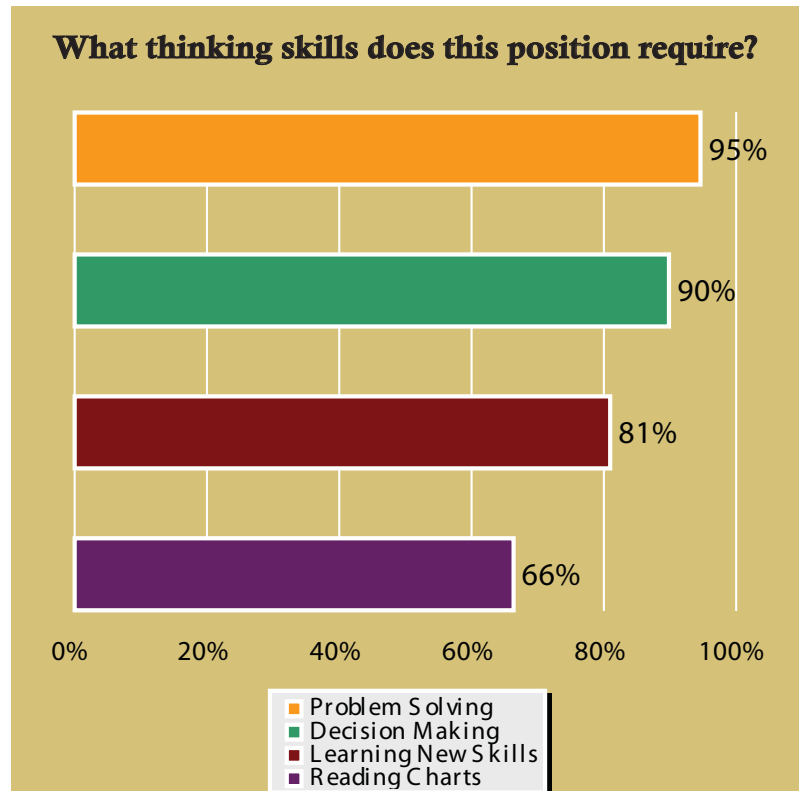
For vacancies in the Manufacturing industry employers had a more difficult time filling the position. Employers indicated for just 4 percent of vacancies they had *no difficulty* filling the open position, while 96 percent indicated they had either *some difficulty* (67%) or *great difficulty* (29%).

THINKING SKILLS

Problem solving is the thinking skill cited most often for **LATER occupations**.

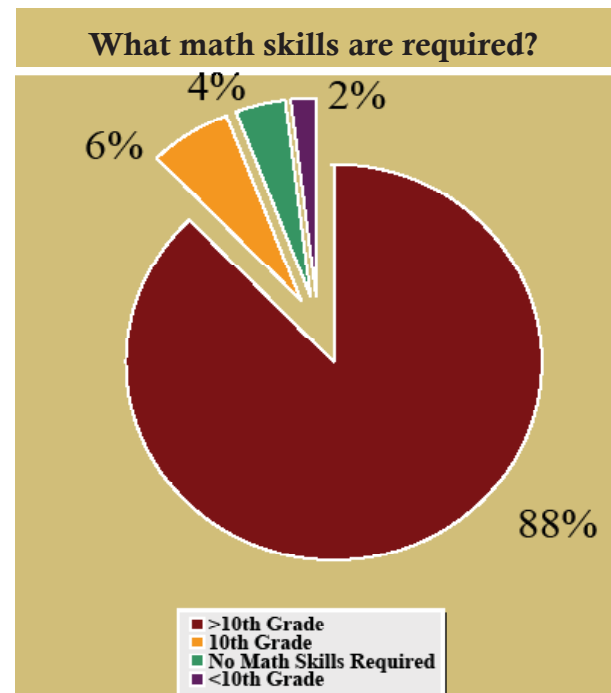
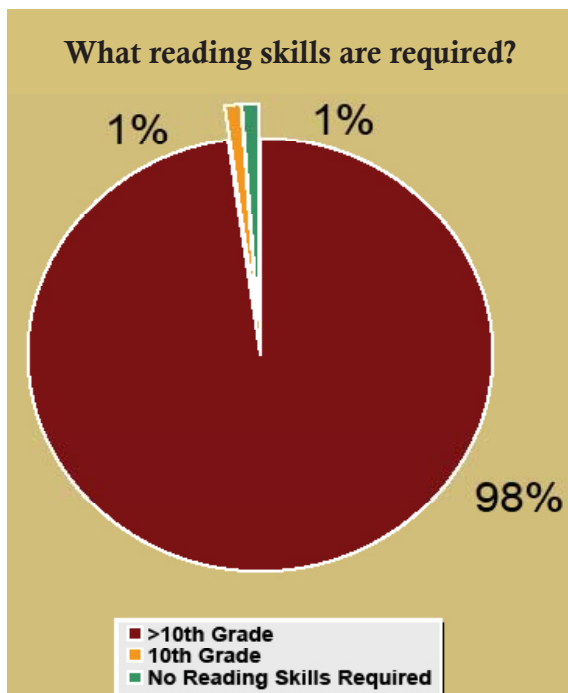
This contrasts with **NOW** and **NEXT occupations** where *learning new skills* was deemed most important.

Both *problem solving* (95%) and *decision making* (90%) are cited at higher rates for vacancies for **LATER occupations** than for vacancies in the other two education and experience categories.



READING AND MATH SKILLS

LATER occupations demand strong reading and math skills. New hires are required to possess greater than a 10th grade education in *reading skills* (98%) and *math skills* (88%).



CONCLUSIONS OF LATER OCCUPATIONS

The Missouri Job Vacancy Survey shows that certain “soft skills” gaps are evident in all occupational categories. Unlike the NOW and NEXT occupations, however, the LATER occupation gaps also include many “hard skill” areas.

“Hard skill” gap areas can be seen through responses from employers about *specific technical skill* competency and shortcoming. Respondents said that for 78 percent of vacancies *specific technical skill* is an important competency, while for nearly one in three (30%) vacancies employers find applicants are deficient in this area. Additionally, for over 40 percent of vacancies, *lack of industry knowledge* is a common shortcoming.

**Hard skills
gaps are most
predominant in
*LATER occupations.***

“Soft skill” gaps exist where employers find competencies such as *interpersonal skills* and *leadership* important. Correspondingly, employers cite common shortcomings like *poor communication skills*, *lack of positive attitude*, *poor work ethic* and *poor customer service skills*.

LATER occupations require virtually all applicants to have a greater than 10th grade level in *reading skills* (98%) and *math skills* (88%).

ACTION STEP

One Initiative — Information Science & Technology Degree

“Hard skills” such as technical skills are usually addressed at institutions of higher education. The Information Science & Technology (IST) degree at Missouri S&T (formerly University of Missouri-Rolla) was created to meet the growing need in industry for professionals who have information technology skills merged with business skills that go outside the scope of traditional programs in Computer Science and Engineering.

Students in the department not only gain an understanding of the applications of information technologies, but they also take a series of foundation courses in business and finance/economics, so they are acutely aware of the business implications of information technology. This learning process works to better link technical skills with industry knowledge so graduates are better able to understand client needs.

Features of the degree program include: Business Interaction & Entrepreneurship, Distance Education Option, In-Demand Courses, Leadership/Management Focus.

To learn more about the Information Science & Technology degree program, please visit the Missouri S&T website at: <http://ist.mst.edu/departments/istprofile.html>

RESOURCES

Missouri Economic Research & Information Center (MERIC)

<http://missourieconomy.org/>

Missouri Job Vacancy Survey

<http://pprc.umsi.edu/jvs/>

Skilled Workforce Initiative

Division of Workforce Development

<https://worksmart.ded.mo.gov/index.cfm?frpath=departments/home.cfm?MenuID=5089>

Career Preparation Certificate Program

Department of Elementary and Secondary Education

http://www.dese.mo.gov/divcareered/CPC_background.htm

Grade Level Expectations

Department of Elementary and Secondary Education

<http://missouricareereducation.org/curr/cmd/guidanceplanningG/lessons/index.php>

Curriculum Alignment Initiative

Missouri Department of Higher Education

<http://www.dhe.mo.gov/casinitiative.shtml>

